



# UNITED STATES PATENT AND TRADEMARK OFFICE

W/A  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,712	12/11/2003	Tieyu Zheng	P17132	2060
21186	7590	08/08/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			DUPUIS, DEREK L	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/732,712	ZHENG, TIEYU	
	Examiner Derek L. Dupuis	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 23 May 2006.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) 6,7 and 9-20 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5 and 8 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 5/23/2006 is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 5/23/2006. These drawings are accepted.

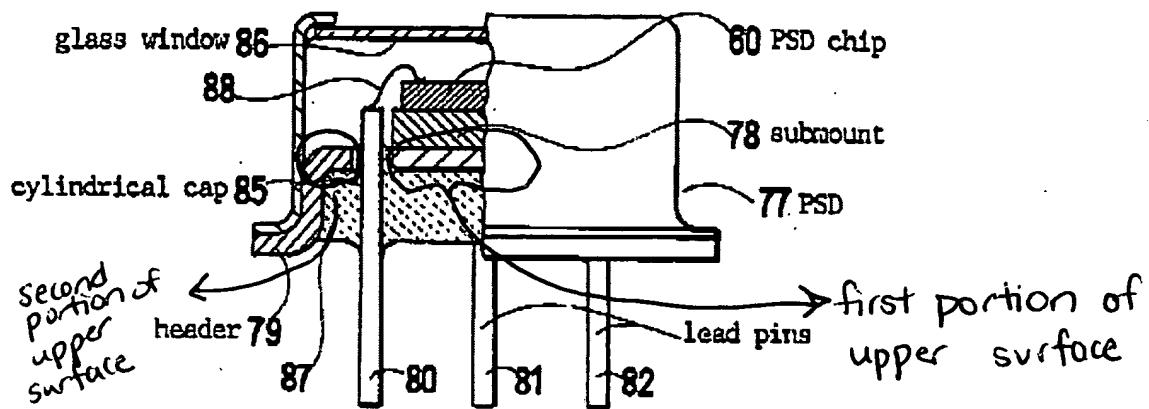
### *Response to Arguments*

2. Applicant's arguments filed 5/23/2006 have been fully considered but they are not persuasive. In pages 6 and 7, applicant argues that claim 1 calls out specific structure upon which the method is carried out and that neither Fujimura nor Simon have this specific structure. Specifically, the applicant asserts that the limitations of "an optoelectronic device mounted on a first portion of an upper surface of an insulating base; a metal sealing member mounted to a second portion of the upper surface of the insulating base, the second portion surrounding the first portion; and a metal cap coupled to the metal sealing member..." are not taught.

3. The examiner disagrees with this assertion. Paragraphs 7-10 of the non-final action mailed 3/10/2006 details how this structure is anticipated by Fujimura in view of Simon. Specifically, Fujimura teaches an optoelectronic device (60) mounted on a first portion of an upper surface of an insulating base (87); a metal sealing member (79) mounted to a second portion of the upper surface of the insulating base (79), the second portion surrounding the first portion; and a metal cap (85) coupled to the metal sealing member (79). The examiner has further identified the first portion and the second portions in the figure below to further explain how the reference reads on the claimed limitation. Note that this figure is a side-view. It is understood that elements such as the cap, sealing member, etc extend around the full perimeter of the device.

Fig. 15

PSD device mounting the PSD chip in a package



*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujimura et al* (US 5,666,450) in view of *Simon et al* (US 4,386,821).

6. Fujimura et al teach a method of manufacturing a hermetically sealed optoelectronic package as seen in figure 15 having an optoelectronic device (60) mounted on a first portion of an upper surface of an insulating base (87). A metal sealing member of FeNi (79) is mounted on a second portion of the upper surface of the insulating base (87) so as to surround the first portion upon which the optoelectronic device (60) is mounted. A metal cap (85) is coupled to the metal sealing member (79). The method comprises the steps of supplying a force to push the

metal cap (85) against the metal sealing member. While Fujimura et al do not explicitly disclose a force, a force of some kind must inherently be applied to the metal cap to make contact with the metal sealing member to achieve the configuration shown in figure 15. See column 13, lines 40-67.

7. Fujimura et al do not explicitly teach applying a first electrode to the metal cap, applying a second electrode to the metal sealing member and supplying a current between the two electrodes to weld the metal cap to the metal sealing member.

8. Simon et al teach a method of welding a metal cap (12) to a metal sealing member (11) as best seen in figure 4. Simon et al teach applying a first electrode (41) to the metal cap and applying a second electrode (42) to the metal sealing member. Simon et al teaches that an electric welding operation is then performed which one of ordinary skill in the art realizes involves passing current between the electrodes so as to weld the metal pieces together. See column 3, lines 36-50.

9. It would have been obvious to one of ordinary skill in the art at the time of invention to apply electrodes to the metal cap and the metal sealing member as taught by Simon et al to electrically weld the metal cap to the metal sealing member in the method taught by Fujimura et al. Motivation to do this is the suggestion by Fujimura et al to use electric welding to weld the cap to the metal sealing member (see column 13, line 57. Simon et al merely describes the steps of electric welding in greater detail.

10. Claims 2-5 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujimura et al (US 5,666,450)* in view of *Simon et al (US 4,386,821)*, as applied to claim 1 above, and in further view of *Thorwarth (US 4,418,264)*.

11. Fujimura et al in view of Simon et al teach a method for manufacturing an optoelectronic package as discussed above in reference to claim 1. Fujimura et al and Simon et al do not explicitly teach that the second electrode has multiple fingers or that the second electrode is coupled to an upper surface of the metal sealing member.

12. Thorwarth teaches a method of electrically welding two metallic pieces together shown best in figure 2. Thorwarth teaches using a first electrode (1) and second electrode (3 and 4) which comprises multiple fingers (3 and 4). Each finger contacts a distinct point in the welding area. Each finger also is independently positioned by metal springs (9 and 11). The currents (5 and 6) to each finger (3 and 4) are independently controlled. The second electrode is “cone-shaped” as it is wider at the top and the width decreases at the bottom as shown in figure 1. Also, Thorwarth teaches that the electrodes can be coupled at the upper surface of the welding joint.

13. It would have been obvious to one of ordinary skill in the art at the time of invention to use the method of independently controlling the current to independent finger electrodes taught by Thorwarth to perform the electric welding in the method taught by Fujimura et al in view of Simon et al. Motivation to do this would be that the independent fingers allow for “independent welding” (see abstract) which offers better welding control.

### *Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Chikugawa (US 7,035,301 B2)* teach an optoelectronic device with many of the limitations in claim 1.

15. Applicant's amendment necessitated any new or modified ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek L. Dupuis whose telephone number is (571) 272-3101. The examiner can normally be reached on Monday - Friday 8:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Derek L. Dupuis  
Group Art Unit 2883

  
Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2800